

T A M C LASER EYE CENTER

LASIK/PRK INFORMATION PAMPHLET

**Read this packet in its entirety.
You must bring this packet with you to every appointment at the Laser Eye Center at Tripler.**

PATIENT QUESTIONNAIRE

OFFICE USE ONLY

Ticket #

Appt Date:

@

Please fill out completely: Date: _____ SSN: _____

Name: _____ Rank: _____ Grade: _____
(Last) (First) (MI)

Age: _____ Date of birth: DD / Month / YY Gender: ☐ Male ☐ Female Branch: _____
(Example: 01 Jan 80)

(MOS) Occupation: _____ Unit: _____

Home Address: _____

Phone number: Home: _____ Work: _____
Cell: _____ Pager: _____

Email address: _____

In your own words, please list what your expectations are:

Examples: To be able to wake up in the morning and see the clock.

1.

2.

Are you expecting to apply for flight status or special operations? Yes or No () initials

Do you have, or have you ever had any of the following eye conditions:

Corneal disease	Yes / No	Glaucoma	Yes / No
Keratoconus	Yes / No	Amblyopia	Yes / No
Herpes Keratitis	Yes / No	Retinal Problems	Yes / No
Eye Surgery	Yes / No	Cataract	Yes / No
Eye Injuries	Yes / No	Eye Infections	Yes / No
Eye Trauma	Yes / No	Eye Ulcers	Yes / No

Other eye problems: _____

Do you have any of the following medical problems:

Diabetes	Yes / No	Keloid Formation	Yes / No
Autoimmune Disease	Yes / No	Immunocompromise	Yes / No

Other health problems: _____

Do you wear contact lenses? Yes or No

If so, how many years _____, how many hours a day _____

Type of contacts: Disposable Daily wear soft Extended wear soft Soft toric (to correct astigmatism)
Hard contacts Unsure Other _____

Date last worn: _____

Name: _____ Date of birth: _____ Last 4: _____
(Last) (First) (MI) (Example: 01 Jan 80)

List all medications or supplements you take regularly: _____

List any allergies (medication, food, seasonal) that you have: _____

Females, are you pregnant, been pregnant in the last 6 months, nursing, or nursed in the past 6 months?
Yes / No

How long have you worn glasses? _____ years, since age _____

How old are the glasses you are wearing? _____

How long has your eyeglass prescription been unchanged? _____

How long has your contact lens prescription been unchanged? _____

Please circle your answer to the following questions.

(Scale: 0 - None, 1 - Minimal, 2 - Mild, 3 - Moderate, 4 - Severe, 5 - Extreme)

Do you have dry eyes? 0 - 1 - 2 - 3 - 4 - 5

Do you have glares or halos? 0 - 1 - 2 - 3 - 4 - 5

Quality of your vision with correction during:

Daytime: Excellent Very good Good Fair Poor

Nighttime: Excellent Very good Good Fair Poor

Overall satisfaction of your vision:

Without correction: Very satisfied moderately satisfied mildly satisfied Dissatisfied

With glasses: Very satisfied moderately satisfied mildly satisfied Dissatisfied

With contacts: Very satisfied moderately satisfied mildly satisfied Dissatisfied

Are you deploying to Afghanistan or Iraq within the next six months? **YES or NO**

If so, estimated date deploying? _____

Are you Combat Arms? **YES or NO**

Are you Combat Support? **YES or NO**

Name: _____ **Date of birth:** _____ **Last 4:** _____
 (Last) (First) (MI) (Example: 01 Jan 80)

Please circle **YES** or **NO** to the following questions:

Has a doctor ever told you that you have? (If you don't know what it is, just skip it.)

- | | | |
|--|-----|----|
| 1. Recurrent iritis or uveitis? | YES | NO |
| 2. A herpes infection in your eyes? | YES | NO |
| 3. A corneal scar? | YES | NO |
| 4. Glaucoma? | YES | NO |
| 5. Steroid responder? | YES | NO |
| 6. Cataracts? | YES | NO |
| 7. Best correctable vision of less than 20/20? | YES | NO |
| 8. A "lazy eye" or amblyopia? | YES | NO |
| 9. Keratoconus? | YES | NO |
| 10. High Blood Pressure? | YES | NO |
| 11. Heart Problems? | YES | NO |
| 12. Any surgeries in the past 5 years? | YES | NO |
| 13. Are you claustrophobic? | YES | NO |
| 14. Do you suffer from claustrophobia? (Fear of small spaces) | YES | NO |
| 15. Any disease that affects the way you heal, such as
connective tissue disorder? (Rheumatoid arthritis or diabetes) | YES | NO |

If YES to any of the above, explain here.

Name: _____ **Date of birth:** _____ **Last 4:** _____
(Last) (First) (MI) (Example: 01 Jan 80)

Please circle **YES** or **NO** to the following questions:

Any family history?

Relationship (ie: Mother, Father, Grandmother, Grandfather)

1. Diabetes?	YES	NO	_____
2. High blood pressure?	YES	NO	_____
3. Heart problems?	YES	NO	_____
4. Glaucoma?	YES	NO	_____
5. Retinal problems?	YES	NO	_____
6. Other eye problems?	YES	NO	_____
7. Other health problems?	YES	NO	_____

Will you potentially be deployed within the next year in support of the Global War against Terrorism?

Yes / No

ATTENTION

OCULAR COMPLICATIONS OF VACCINIA (SMALL POX)

The following recommendations are appropriate concerning small pox vaccination and PRK or LASIK:

1. PRK/LASIK patients currently on topical steroids are NOT to receive small pox vaccination until the steroid taper is completed.
2. PRK /LASIK should not be performed on patients within a minimum of three weeks after small pox vaccination.

The risk of ophthalmic vaccinia in any patient, post PRK/LASIK or not, is low, but not zero. The effect of recent PRK/LASIK and concomitant steroid use on an eye that develops vaccinia keratitis is unknown. The use of multiple eye drops each day to care for the post PRK eye may lead to hand to eye contact that could increase the risk of developing ocular vaccinia in recently immunized patients. It is possible that the local immunosuppressive effect of topical steroid use could cause the acute condition to become worsened. This in turn could lead to increased scarring in eyes already predisposed to scarring (haze) due to the PRK/LASIK procedure. For these reasons, I believe the above limitations to be prudent at the present time.

Eric J. Dudenhofer MD
Major, USAF, MC
Assistant Chief, Cornea, External Disease and Refractive Surgery
Wilford Hall Medical Center
Lackland AFB, TX
210-292-2010

VACCINATION RECEIVED: YES_____ NO_____

IF YES, DATE OF VACCINATION: _____

MY SIGNATURE INDICATES THAT I HAVE READ THE ABOVE INFORMATION.

SIGNATURE_____ DATE _____

DEPARTMENT OF THE ARMY

OFFICE SYMBOL

DATE

MEMORANDUM FOR: Commander Tripler Army Medical Center
ATTN: Laser Center, 2C
Tripler AMC, Hawaii 96859-9000

SUBJECT: Commander's Endorsement of Laser Surgery for Army service members.

1. _____ has been granted my endorsement/permission to have laser surgery.
NAME, RANK, SSN
2. The individual stated above will have at least 3 months remaining on Island after surgery (DEROS _____)
DATE
and is retainable in the service for at least 18 months after surgery (will not be retiring, ETS-ing, or chaptered).
The individual's current ETS date is _____.
UNIT _____.
3. I realize that after the surgery, the individual will receive the following temporary profile after the surgery for possibly 14 days and up to 60 days.
 - a. No jumping for up to 1 month
 - b. No swimming for up to 1 month
 - c. No night operations for up to 1 month
 - d. No operating a military vehicle for 2 weeks.
 - e. No field duty for up to 1 month.
 - f. No weapons training for up to 1 month.
4. I realize that the individual will be on convalescent leave for one of the following surgeries:
 - a. PRK surgery is four (4) days.
 - b. LASIK surgery is two (2) days.
5. I understand that the individual **must** keep all, but not limited to, the listed follow-up appointments:
1 day, 3 days, 1-2 weeks, 1 month, 2 months, 3 months, and 6 months.
6. I further realize that if the individual receives an eye injury during the first 12 months after surgery, it is **imperative** that the individual be seen by an ophthalmologist as soon as possible.
7. Attached to this letter of approval must be the following: Unit assigned, unit phone, duty MOS, home address, home phone, cell/pager number, and a copy of your current glass prescription.
8. Point of contact for this memo is the undersigned (or his/her representative) at _____.

PHONE NUMBER

Commander's Signature: _____

Commander's Printed Name: _____

Rank & Unit Commanding: _____

COMMANDER'S SIGNATURE BLOCK
MUST BE ORIGINAL SIGNATURE; NO COPIES

If you **are** assigned to or are in support of the 25ID on Schofield Barracks, the commander's letter must be signed by the battalion commander (05 or higher).

If you **are not** assigned to the 25th ID on Schofield, your **unit** commander (03 or higher) must sign the letter.

If someone signs “by direction” or as “acting” commander, an “Authorization to Sign By Direction” memorandum or “Assumption of Command” memo/letter must accompany the commander’s letter.

The commander’s letter must be dated w/in 6 months of surgery.

ETS/Retirement date **must** be entered (indefinite is not acceptable). This date should indicate the end of your obligation to the military.

DEROS date must be entered (this is the date that you will leave the island).

The commander's signature block must be completed.

---Signature block must include **unit** commander's signature, printed or typed name, unit commanding, and rank.

If someone signs “by direction” or as “acting” commander, an “Authorization to Sign By Direction” memorandum or “Assumption of Command” memo/letter must accompany the commander’s letter.

In addition, there **cannot** be any “scratch-outs”, “write-overs”, or white out on the commander’s letter. Service members submitting commander’s letters with “scratch-outs” or “write-overs” will be asked to bring in a new memo.

Active Duty Air Force must also bring the commanders’s auth “Warfighter” corneal refractive surgery (CRS) program form.

Navy, CG, and Marine service members must also bring the NAVY CONSULT FORM.

Commander’s letter must be completed, when patients come to their initial appointment.

This must be provided upon arrival along with a copy of the patient’s eye exam and any other paperwork listed on this sheet.

LASER SURGERY INFORMATION PAPER

This information paper is for personnel who desire laser surgery. Please read the information carefully and follow each step to expedite the process. This paper contains some information, rules, and guidelines you must follow if you are interested in having laser surgery. The Laser Center has one of the highest clinic patient workloads in the Tripler Army Medical Center. Please have patience when dealing with the staff, and abide by the appointment times and dates you are given. If you cannot make the appointment given to you, you must call (808) 433-3089 and/or leave a message **ONE DAY BEFORE** your appointment time. A “no-show” for the briefing or evaluation appointments will result in you being removed from the program. **PLEASE KEEP ALL OF YOUR APPOINTMENTS.** If you and a coworker need to trade dates or times due to any reason, you must notify the Laser Center 24 hours in advance.

1. **LASER SURGERY IS AN ELECTIVE SURGERY. IT IS NOT A MANDATORY OR REQUIRED SURGERY. YOU MUST VOLUNTEER FOR IT AND BE ACTIVE DUTY TO BE CONSIDERED FOR THIS PROCEDURE.**
2. If you have a recent eye exam, either military or civilian, please make a copy of the report and bring it to the Laser Center briefing. Bring a copy of the eye exam (or recent prescription), and this Laser Center prequalification packet to the Laser Center staff the day of the briefing. Please fill out all the patient information and answer all the questions prior to having your initial appointment at the Laser Center.
3. The Process: You should have received this prequalification packet from your point of contact. This person is your liaison to get you into the system. Make sure that this person has your correct information, primarily your name, unit, SSN, and contact phone numbers.
 - a. The First Step: Within this packet you will find a number of forms that need to be filled out. It is imperative that you do so before proceeding to the next step. Also in this packet you will find an information pamphlet. Read through it carefully. This will explain to you why you need glasses or contacts for your best vision at this time, and laser refractive surgery procedures that may be offered to you if you qualify. Any questions will be answered in the Laser Refractive Briefing (step 2).
 - b. Step 2 – The Briefing: You will be notified about the date, place, and time for a briefing on the Refractive Laser Program via your local point of contact. Your point of contact will be at your local optometry clinic or Division Surgeon’s office. At this briefing you will learn about the laser procedures, other surgical and non-surgical options available, possible risks and benefits of the surgery, and have an opportunity for questions and answers. At this time, a Laser Center staff member will look at your prequalification packet to ensure that you meet the basic criteria. If your local point of contact has arranged a specific briefing date for you, but you are not able to make the appointment, please call your local point of contact.

Given that you meet the basic criteria and this packet is complete, an appointment for an evaluation will be made for you at the briefing, so you will need to know your schedule for the next two to four weeks. Be aware that this is only an initial screening. At any point in the evaluation process it is possible that you may be disqualified for surgery due to medical or operational reasons. You will not receive a surgery date until your pre-operative evaluation has been completed.

*****IMPORTANT*****

- c. **IF YOU WEAR CONTACTS** you need to have them out for a specified length of time before your initial visit, and then not wear them again at any time:

- For soft contact lens wearers – 2 weeks
- For hard/gas permeable/soft toric lens wearers – 4 weeks

Contact lenses change the shape of your cornea, even if worn for only a few hours. It may take weeks for these changes to disappear. It is very important that you follow these instructions, since the surgery we perform is based on the measurements we take of your eyes. We want the most accurate information possible.

- d. Step 3 – Initial Technician Evaluation: Your first appointment at the Laser Center is the Tech evaluation, where you will have your paperwork screened and then have a variety of tests and measurements performed on your eyes to evaluate such things as corneal thickness, intraocular pressure, pupil size, topographic mapping of your corneal surface, evaluation for dry eyes, etc. Results from this examination are used to determine eligibility for the laser surgery program. It is expected that a small percentage of people will not be offered surgery based on their test results. **You must bring military ID card, glasses, military medical records, complete eye exam (and recent glasses/contact lens prescription), commander's letter to this appointment, and any other specified paperwork.**
- e. Step 4 - Doctor's Evaluation: Your next appointment, often scheduled for a later date, will take at least two hours and your eyes **will be dilated**. This will blur your vision – normally for 24 hours, but it may last up to 72 hours. Expect this, and if you feel that you will not be able to drive, you need to make prior arrangements. Also, due to space constraints in the clinic, we ask that you please do not bring family members and/or friends with you to your appointments, other than your driver.

You will need to bring in your glasses and medical records for this exam. It is suggested that you pick up your records a few days in advance just in case your records room is closed the day of your exam.

Ask any questions that you may have at this time. These are your eyes, and it is your career. Make sure that you understand this packet and the process. Answering your questions and addressing your concerns is one of the most important parts of our job. **If you have any concerns do NOT leave the clinic until you have talked about them with the NCOIC/Clinic Manager.**

The Laser Center is one of, if not the busiest clinics at Tripler; so if we are running behind, please be patient with the staff. We are very dependent on technology and we have to ensure that everything is running perfectly.

- f. Step 5 – The Day of the Procedure: After you have had your evaluation and your doctor determines that you are a good candidate and discussed options, you will make an appointment for surgery. Normally surgery is done two to four weeks later. Again, you need to know your schedule in order to make the appointment. Remember, you will be on convalescent leave afterwards.

The appointment clerk or a staff member will make the appointment with you and tell you what time to show up. This procedure is done here in the clinic. The surgery itself take only about 30 minutes, but there are a number of things that need to be done in preparation, so you may be asked to be here for at least two hours before your procedure.

Prior to your procedure, you still cannot wear your contact lenses. Also, due to the sensitivity of our laser, you need to shower the morning of your surgery and you cannot wear/use any product that has a smell to it (i.e. cologne, perfume, deodorant, hairspray, some shampoos, etc. Females, you cannot wear any eye makeup for three days before the surgery.) **Do not take any medications, drugs, or eye drops prior to your surgery unless told to by a member of the laser staff. Make sure you identify any allergies at this time.** You need to wear clean, comfortable clothes and no jewelry except rings. These rules **WILL** be enforced. They are for your protection and safety.

Your vision will be blurry after the procedure. The staff will go over your limitations and postoperative instructions with you. **Make sure to follow them.** You will not be able to drive, so please arrange for someone to drive you to and from your procedure. You also will not be able to return to work. Make your arrangements in advance.

- g. Step 5 – Follow-up Care: This is the most important part of our care for you. These follow-up appointments are necessary and required. We have had excellent results with these surgeries, **but there is always a chance for complications.** This is why we have follow-up appointments. Some problems can develop so subtly that you do not notice them until it is too late for it to be properly treated. With regular follow-up appointments at the appropriate time from the date of your surgery, we can limit most problems and/or properly treat them **if** they arise.

After your surgery, take all medications as directed. Even though you may not feel pain, you should take your medications as prescribed.

You must attend all postoperative appointments.

A summary of your postoperative appointments will look like this:

LASIK

1 day post-op
1 week post-op
1, 3, 6 month post-op

PRK

4-5 day post-op
2 week post-op
1, 2, 3, and 6 month post-op

There may be more if your doctor feels like it is necessary. Make sure that you make **all** of your follow-up appointments; and if you need to reschedule, make sure that it is within a reasonable time frame. If you do not make your postoperative appointments, the Laser Center will notify your chain of command. If you are not on official government business, the hospital commander may recommend UCMJ action be taken. Normal leave is not official government business. If you must reschedule any appointment with the Laser Center, please call (808) 433-3089.

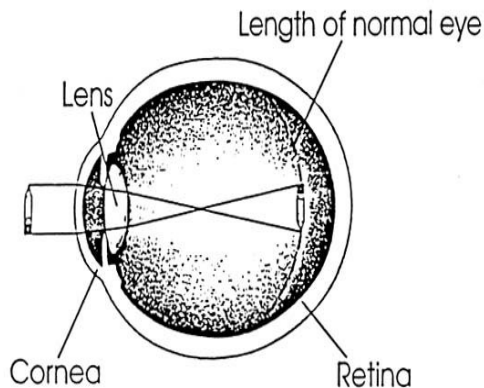
4. Checklist:

- ☐ Read all material thoroughly.
- ☐ Have commander approve the endorsement memo.
- ☐ Have copy of glasses prescription (NOT contact lens prescription) and **complete eye exam.**
- ☐ Fill out the questionnaire and small pox form.
- ☐ Attend Briefing to get scheduled for initial appointment in laser refractive clinic.

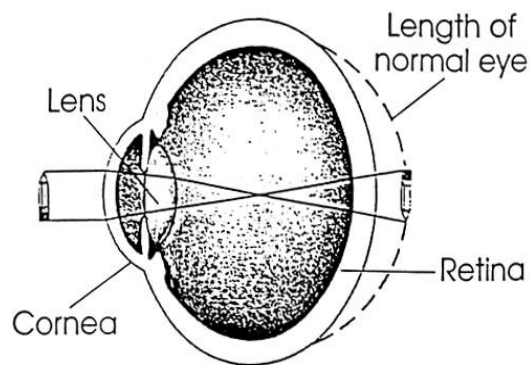
Refractive Surgery

There are two parts of the eye that focus light; the cornea (clear front window of the eye), and the lens (located inside the eye, behind the colored iris). Nearsighted people have an eye that has too much focusing power relative to the size of the eye. Conversely, farsighted people have an eye that has too little focusing power relative to the size of the eye.

Laser refractive surgery aims to improve vision by permanently changing the shape of the cornea. When treating **myopia**, or **nearsightedness**, refractive surgery techniques reduce the curvature of the cornea to lessen the eye's focusing power. Images that focused in front of the retina, due to an elongated eye or steep corneal curvature, are pushed closer to, or directly onto, the retina. When treating **hyperopia**, or **farsightedness**, refractive surgery techniques make the cornea steeper to increase the eye's focusing power. Images that focused beyond the retina are pulled closer to, or directly onto, the retina.



A myopic (nearsighted) eye is too long. Instead of focusing on the retina, images fall in front of it, and vision is blurry.



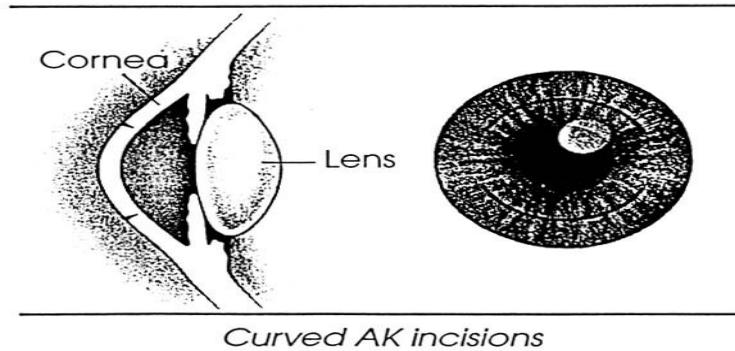
A hyperopic (farsighted) eye is too short. Instead of focusing on the retina, images focus beyond the retina, and vision is blurry.

Astigmatism is the term used to refer to an eye that has a focusing power that is stronger in one meridian and weaker in the other. It is most commonly due to asymmetry in the focusing power of the cornea, and small amounts of astigmatism are extremely common. If the amount of astigmatism is significant, light passing through the cornea is focused to different degrees. Images reaching the retina are distorted and vision is blurred. When treating astigmatism, refractive surgery techniques selectively reshape portions of the cornea to make it symmetrical and smooth so that images focus clearly on the retina.

LASIK (laser in situ keratomileusis) and PRK (photorefractive keratectomy) are the two most commonly performed corneal refractive surgeries in the world. We offer both surgeries at the Laser Eye Center at Tripler, but they are not the only options available. Of course, the safest and most risk-free option to correct your refractive error is to continue to wear glasses or contact lenses. While the U.S. Food and Drug Administration has determined that LASIK and PRK are safe and effective procedures, certain conditions or circumstances may mean that particular individuals are less than ideal candidates. These considerations include, but are not limited to age (patients must be at least 21 years old); rapidly changing vision; autoimmune disorders; medications, including steroids, that may slow healing; cataracts and other eye diseases, eye injuries, a history of ocular herpes within one year of proposed surgery; dry eyes, and other conditions. The majority of people will qualify for LASIK or PRK surgery, but for some, LASIK or PRK may not be the ideal surgical option for a variety of reasons. If we feel that you are not a good candidate for LASIK or PRK, you will be told why, have the opportunity to ask questions, and not be offered the surgery. While this understandably will be discouraging to hear, our priority is to look out for your best interests and refrain from permanently changing your eyes if we feel that there may be long-term implications and problems. Some of the most common reasons we refrain from offering LASIK are corneas too thin, corneal epithelial disease, irregular astigmatism, excessive nearsightedness ($>-10D$), severe dry eyes, as well as a variety of others. For PRK, we prefer not to treat people more nearsighted than $-7D$ due to the concern about late-scarring ("haze"). Farsighted (hyperopic) patients usually have vision that is too good to qualify as long as they are still in their 20's and 30's. After the age of 40, the distance vision tends to get more blurry and they become reliant on glasses. At this time, they may qualify for LASIK or PRK, though we prefer not to correct anyone more farsighted than $+4D$ due to concerns about quality of vision issues. If you don't qualify for LASIK or PRK, there are other options that you may pursue, though many of the procedures are still in experimental stages and years away from being made available to the general public in the U.S. Here are a few examples:

Instromal Corneal Ring Segments: ("Intacs") - this procedure is approved for low-myopes with little, if any, astigmatism. It involves the placement of two plastic 180-degree rings into the corneal periphery where they act to flatten the cornea. They are reversible, and spare the central portion of the cornea so the risk of visually-significant complications is very low. Unfortunately, this technology didn't stand a chance up against LASIK in the general marketplace. Very few surgeons are trained in the procedure, and Intacs are relegated to investigational studies for the most part. This procedure is not offered at Tripler.

Astigmatic Keratotomy (Arcuate Keratotomy): this procedure does not change the overall refractive power of the cornea, but rather it reduces the amount of astigmatism. Deep peripheral corneal arcuate incisions are made in the corneal periphery in the axis of the steep meridian.



This procedure is generally used in combination with excimer laser procedures when there is a need to correct both myopia and astigmatism or as a “touch up” procedure if astigmatism remains after a prior laser procedure.

Phakic Intraocular Lens: This procedure is being studied for use in very nearsighted patients ($>-10D$). A plastic-material lens is placed inside the eye surgically to correct the extreme nearsightedness. It is not approved by the FDA, and safety studies are currently underway.

Implantable Corneal Contact Lenses: Again, an experimental procedure at this time for patients with extreme nearsightedness. Safety studies underway.

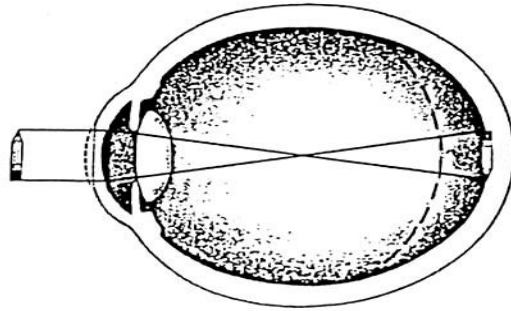
Clear Lens Extraction: In this procedure, the lens inside the eye is removed and an intraocular lens implant is placed to correct the high degree of near- or far-sightedness. This is a more invasive procedure than corneal refractive surgery, and may be offered in certain situations to people with extreme nearsightedness ($>-10D$) or farsightedness ($>+4D$) after they have become presbyopic (unable to read up close without the assistance of reading glasses, usually in the 40's)

Conductive Keratoplasty and Laser Thermal Keratoplasty: Both procedures are available as options for farsighted (hyperopic) patients. Spot burns are made in the periphery of the cornea to steepen it. Likely only temporary effect. Long-term safety record unknown. Not offered at Tripler.

The Surgical Options Offered At Tripler Army Medical Center:

Photorefractive Keratectomy (PRK)

PRK is a non-reversible surgical procedure in which the surgeon uses a laser to remove micro-thin layers of tissue from the cornea. The tissue is removed in a controlled pattern programmed into the computer by the surgeon.

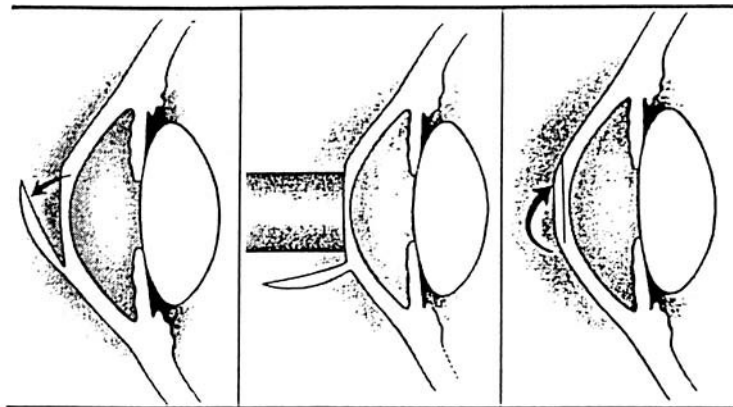


*PRK flattens the central cornea
to reduce myopia*

When treating myopia, or nearsightedness, the surgeon uses the laser to flatten the corneal surface in a circular pattern. In comparison, when treating astigmatism, the laser is programmed to remove tissue in an elliptical pattern, selectively reshaping some portions of the cornea to form a smooth symmetrical surface. This procedure requires precise evaluation of the astigmatism so that the correct amounts of the laser energy are delivered to the appropriate areas of the cornea.

Laser In Situ Keratomileusis (LASIK)

LASIK is a non-reversible combined microsurgical and excimer laser procedure used to correct myopia, hyperopia and astigmatism. In LASIK, a highly specialized instrument, the ***microkeratome***, is used to make a thin flap in the cornea. The excimer laser is applied beneath the corneal flap. The flap is then replaced and allowed to heal. No stitches are necessary. **The eye is permanently weakened by this procedure.**



*Corneal tissue flap is lifted (left); laser
sculpts exposed surface of cornea (center);
tissue flap is replaced (right)*

Refractive Surgery: Complications and side effects

It is very important to understand that there are risks and potential complications with any surgical procedure. While the U.S. Food and Drug Administration has determined that LASIK and PRK are safe and effective procedures, there are inherent risks to each procedure. The risk of having a visually-significant complication is less than 1%. Some of the potential complications are listed below:

- Flap complication (LASIK) to include striae (wrinkles), irregular astigmatism, epithelial abrasion, irregular flap, and flap slippage
- Scarring and Haze
- Loss of best vision
- Decrease in contrast sensitivity
- Dry eyes
- Inflammation
- Elevated intraocular pressure +/- Glaucoma
- Light sensitivity and glare
- Under- or over-correction; and regression back towards nearsightedness
- Halos
- Temporary discomfort
- Need for reading glasses at an earlier age

Rare complications include:

- Cataract
- Infection
- Retinal detachment
- Optic nerve damage
- Permanent vision loss

You must read the Informed Consent form which details the risks and possible complications associated with PRK and LASIK, as well as the special military considerations. Read each page in its entirety, initial each page, and sign the last page. Do not sign the form until you feel that you have had all of your questions and concerns addressed to your satisfaction.

Which Method is best?

There is no best method for correcting refractive errors. Discuss your needs and lifestyle with your ophthalmologist (Eye M.D.) to determine the best procedure for you.

Are you a good candidate for refractive surgery?

You might consider refractive surgery if you:

- Wish to decrease your dependence on glasses or contact lenses;
- Are free of eye disease;
- Can accept the inherent risk and potential side effects of the procedure;
- Have the appropriate refractive error.

While refractive surgery offers some people an alternative to dependence on glasses or contact lenses, it's not for everyone. You may not be a good candidate for refractive surgery if you are generally satisfied with glasses or contact lenses, or unwilling to accept the uncertainty in the outcome of refractive procedures. Even after refractive surgery, certain people may still need to wear glasses or contacts.

Surgery, contacts and glasses each have their benefits and drawbacks. The best method of correcting your vision should be decided after a thorough examination and discussion with your physician.

Important Facts

Ninety-five percent of people who have had refractive surgery can pass a standard driver's license exam that requires a visual acuity of at least 20/40 without glasses or contacts.

Additional enhancement surgeries may be required to achieve your desired results.

You may still need glasses or contact lenses to achieve your best vision even after refractive surgery.

Fitting contact lenses may be difficult or impossible because of corneal changes following refractive surgery.

Reading glasses may still be necessary for middle-aged and older adults. Refractive surgery does not alter the aging process of the eye and does not prevent presbyopia. In fact, you may need reading glasses at a younger age.

If you have specific occupational goals, check with your prospective employer about regulations concerning refractive surgery.

Additional Educational Sources:

www.eyenet.org (American Academy of Ophthalmology)

www.ascrs.org (American Society of Cataract and Refractive Surgery)

**Tripler Army Medical Center
Laser Center**

LASIK/PRK Presurgery and Day-of Surgery Instructions

PRE-SURGERY INSTRUCTIONS

1. LASIK

- a. you should pick up your medications at the Main Pharmacy located on the 4th floor, Mountainside, following your 'Photos' appointment
 - Vigamox
 - Pred Forte
 - Valium (Diazepam)
 - Roxicet
- b. beginning one day prior to your scheduled surgery, begin using Vigamox four times per day into your eyes

2. PRK

- a. you should pick up your medications at the Main Pharmacy located on the 4th floor, Mountainside, following your 'Photos' appointment
 - Vigamox
 - FML
 - Nevonac
 - Neurontin
- b. beginning one day prior to your scheduled surgery, begin using Vigamox and Nevonac four times per day into your eyes, separated by 5 minutes between drops

DAY OF SURGERY: Report to the Laser Center on the second floor, wing C at scheduled time. **Phone: (808) 433-3089.**

Things you will need to bring with you on the day of surgery:

1. **A driver (other than yourself). Please do not bring anyone else (children, friends, etc.)**
2. **Medical record.**
3. **ID Card. If you have not picked up your medications before surgery, you or your escort may pick them up from the outpatient pharmacy (4th floor, Mountainside) the day of surgery.**
4. **Sunglasses (if you do not wish to wear the stylish ones we provide.)**
5. **Contact lens for your non-operative eye (if applicable), or glasses.**
6. **The medications the doctor prescribed you.**
7. **Patience. We will try to get all patients treated as expeditiously as possible.**
8. **Something to read while you wait.**

Other important information:

1. Do **NOT** wear earrings.
2. Do **NOT** wear makeup, especially around the eyes.
3. Do **NOT** wear lotion or cream around eyes.
4. As a reminder, do **NOT** wear contact lenses as stated below, and DO NOT wear them again at any time after your initial evaluation.
 - a. Soft lenses: 2 weeks prior to initial evaluation (Tech Evaluation).
 - b. Gas Permeable, Hard or Soft Toric lenses: 1 month prior to initial evaluation (Tech Evaluation).
5. Do **NOT** wear perfume or cologne.
6. Do **NOT** wear aftershave.
7. Wear something warm, clean and comfortable. The temperature in the laser room is kept between 68-70 degrees.
8. If you become ill, call us prior to your surgery to see if we will need to reschedule you.
9. Take a shower the morning of the surgery and be aware of using products with a strong smell.
10. Limit your coffee intake the morning of the surgery.
11. Females cannot have their hair in a bun or formed in the back in any way.

The Day of Surgery.... What to expect:

1. When you check in, you will receive a nametag. Please ensure that the information is correct.
2. Your paperwork will be reviewed while you are waiting, and any corrections or additions that are needed will be made.
3. You will receive several eye drops (to numb and to dilate the eyes) about 30-60 minutes prior to going into the laser room.
4. You will be brought into the pre-op preparation room where your eyes and eyelids will be cleaned using a dilute antiseptic solution. Make known any questions that you may have for the doctor.
5. When it is time for your surgery, you will be escorted into the laser room. You will be positioned on the bed and have the non-operative eye patched (this will better enable you to concentrate on the flashing red light, when instructed).
6. As a general rule, observers (friends, family members, etc) are NOT allowed in the laser room.
7. The bed will move you into position underneath the laser, and you will be asked to move your entire body so that your eye is centered underneath the flashing red light.
8. The doctor and technician will review the operative plan one final time, confirming that the information is accurate.
9. **LASIK:**
 - a. A numbing drop will be placed onto the eye, and the eyelids dried thoroughly
 - b. Sterile plastic drapes will be applied over the eyelids/lashes of the upper and lower eyelid.

- c. A metal speculum will be placed into the eye to keep the eyelids open.
- d. A spot on your cornea will be marked with purple ink, the eye irrigated with liquid and then dried.
- e. A metal suction ring will be positioned over the eye. Once it is centered, the surgeon will call for suction to be applied. You may feel some pressure on the eye from the suction. When the suction is on, it will be difficult for you to see; your vision will turn gray or dark. This is a temporary effect from the suction.
- f. After suction is applied, the microkeratome (essentially a motor-driven blade) will be positioned on the eye. When it is activated, you will hear and feel the vibrations as it passes over your eye, creating a hinged flap of corneal tissue. After the cut, suction will be turned off and the ring removed. Your vision will slowly return. The flap of tissue will then be folded back so the laser energy can be applied to the underlying corneal tissue.
- g. You will be asked to keep focus on the blurred flashing red light, and will be informed when the laser is about to begin. You will hear the motor become louder, followed several seconds later by some loud popping noises. Do not be startled or jump. It is very important to concentrate and focus on the red light. The laser procedure is painless, and usually lasts 30-50 seconds.
- h. Once the laser is finished, the doctor will reposition the corneal flap to ensure that it is properly aligned and clear of any wrinkles.
- i. Medicated eye drops will be instilled into the eye.
- j. The lid speculum and drapes will be removed from your eye, and the other eye will then undergo the same procedure.
- k. When the procedure is finished, the doctor will examine your flaps at a microscope to again ensure that they are appropriately positioned. You may be asked to wait 10-15 minutes with your eyes closed before they are examined.
- l. You will then review the postoperative instructions, including your follow-up appointment time, special instructions, medications, and how to use the medications.
- m. The vision is typically quite blurry following LASIK for a variety of reasons, mostly because your eyes are dilated and the top layer of the cornea (epithelium) is cloudy and swollen from the procedure. The vision should gradually improve over 6-12 hours.

10. PRK

- a. A numbing drop will be placed onto the eye.
- b. A metal speculum will be placed into the eye to keep the eyelids open.
- c. While you are focusing on the flashing red light, a metal ring will be placed onto your cornea with light pressure. The ring will then be filled with a dilute ethanol solution for 20-30 seconds to loosen the top skin cell layer (epithelium).
- d. The eye will be copiously irrigated with a cool liquid, and then dried.
- e. The epithelium will be removed by the doctor with a rigid sponge or spatula. Occasionally some people have epithelium that is difficult to remove, and we may be required to use a motorized brush to remove it. All methods are painless.
- f. Once the eye is centered under the laser, you will be asked to keep focus on the blurred flashing red light. You will be informed when the laser is about to begin. You will hear the motor become louder, followed several seconds later by some

loud popping noises. Do not be startled or jump. It is very important to concentrate and focus on the red light. The laser procedure is painless, and usually lasts 30-50 seconds.

- g. Immediately after the laser stops firing, your eye will again be irrigated with lots of cool liquid, and then dried.
- h. A soft contact lens will be placed onto the eye, and then medicated eye drops instilled.
- i. The lid speculum will be removed from the eye, and the other eye will undergo the same procedure.
- j. Once the procedures are completed, you will be quickly examined to ensure that the contact lenses are in place, and the post-operative instructions will be reviewed.

**Tripler Army Medical Center
Laser Center**

**Postoperative Instructions
Following
LASIK**

Overview: LASIK refractive eye surgery has just been performed on your eye(s) by lifting a partial-thickness corneal flap, changing the shape of the underlying cornea, and replacing the flap to its original position. The flap is very delicate and can easily be wrinkled or shifted over the first several days following LASIK. It is critically important to follow the post-operative instructions detailed below to improve the chances for an excellent post-surgical result.

General Guidelines:

1. The flaps are very fragile: Do **NOT** rub your operative eye(s) or squeeze your eyelids tight. Be very careful not to bump the eye with the medication bottles.
2. On the day of surgery, keep your eyes protected with the goggles or sunglasses provided, except when using eye drops.
3. Immediately following your surgery, it is highly recommended that you go home and take a nap (no more than 2 hours). Valium (Diazepam) is provided to help you relax and fall asleep. Begin your medicated eye drops when you get up.
4. Wear the protective goggles whenever you sleep for 2 weeks following surgery.
5. It is okay to shower or bathe; however, avoid getting water in your eye for two weeks after surgery.
6. Try to stay away from smoky or dusty environments, or areas with chemical vapors.
7. Do **NOT** wear makeup or apply lotions for the first two weeks following surgery.
8. Wear your sunglasses whenever you are outside.
9. Do **NOT** drive or operate machinery/appliances while taking **narcotic** pain medications. Do **NOT** drive unless you feel safe and confident with your vision.
10. Do **NOT** swim (fresh or salt water), use a hot tub or sauna for one month following surgery.
11. Some eye drops may sting for up to two minutes or cause temporary blurred vision.

Surgical Discomfort:

1. The numbing drops wear off about 30-60 minutes following the surgery. It is normal for the eyes to then feel like you have something in them.
2. Roxicet tablets are provided for pain relief should you require it. Take one tablet the first time, with food, if you have never taken it before.

Diet:

1. No restrictions. Drink at least eight (8) glasses of fluid a day (nonalcoholic and noncaffeinated beverages)

How to use eye drops:

1. Wash hands thoroughly.
2. Pull down on lower eyelid while you look upwards. This creates a small pouch into which you can drop your medication.
3. Instill 1-2 drops of medicine (doesn't matter which medicine you use first), wait 5 minutes, and then instill 1-2 drops of the other medicine.
4. You may freely use preservative-free artificial tears throughout the day, but not within 10-15 minutes of instilling medicated drops.

Report any of the following to your surgeon:

1. Excessive pain, not relieved by pain medication
2. Nausea or vomiting
3. Worsening of vision, especially following an accidental bump to eye
4. Development of rash/itching

Medications: BRING DROPS TO ALL POST-OP VISITS

1. **Vigamox** (tan cap): 1-2 drops into eyes four times per day for one week
2. **Pred Forte** (white cap): 1-2 drops into eyes four times per day (SHAKE WELL) for one week following LASIK
3. **Valium** (Diazepam): one tablet by mouth following laser procedure, nap < 2hrs
4. **Roxicet**: 1-2 tablets by mouth every 4-6 hours as needed for pain (take with food)
5. **Artificial tears**: use hourly while awake during first 24 hours post-surgery; as needed thereafter

Activities / Restrictions:

1. Con-leave authorized for 2 days following LASIK.
2. No restrictions on day-to-day activities (reading, watching TV, etc.)
3. Exercise :
 - ☐ running, walking, biking, golfing - please wait 2 days before resuming
 - ☐ light weightlifting - please wait 1 week before resuming
 - ☐ strenuous weightlifting - please wait 2-3 weeks before resuming
 - ☐ swimming - must wait one month before resuming
 - ☐ other - please use common sense

For problems or concerns, call the Laser Center at (808) 433-3089, from 0700 to 1600 Monday through Friday.

After hours, call the Emergency Room at (808) 433-3707.

Answers to Commonly Asked Questions:

Q: Why is my vision still blurry even though I just had LASIK?

A: The vision will be hazy for 6-12 hours following LASIK due to the swelling and cloudiness to the surface of the flap.

Q: What are these red spots on my eyes?

A: A significant percentage of people will develop bruises on the surface of their eye, which appear as areas of bright red blood on the white part of the eye. These come from small superficial blood vessels which break when the suction ring is applied to the eye. They are painless, and will resolve over 1-3 weeks usually.

Q: My eyes don't feel dry. Do I need to use the artificial tears?

A: Artificial tears (preservative-free) are recommended for use on a frequent (hourly) basis during the first several days following LASIK as the flap is stabilizing. After several days, if your eyes are not bothering you and your vision is clear, you can stop using the tears. If, though, your vision fluctuates, or your eyes feel dry, then use the tears frequently. The laser center will provide you with 1 (one) box of preservative-free artificial tears upon request (in addition to the small box you received on the day of surgery). Additional boxes will not be provided. If you would like to purchase tears, they are available at most pharmacies and the PX. Preservative-free artificial tears only are recommended. Sample brands include Refresh, Refresh plus, GenTeal, and Bion Tears.

Q: When will my eye be fully healed?

A: The majority of the healing takes place within the first week or two, though the cornea never returns to its full strength following LASIK (that is, it is permanently weakened). For this reason, protective eyewear is strongly encouraged whenever you engage in any activity in which your eyes are at risk for being damaged.

Q: How often do I need to see the doctor?

A: Routine post-operative exams are scheduled at one-day, one-week, and one-,three-, six-, and 12- months after surgery. Additional visits may be required.

Q: What about enhancements/re-treatments if I'm not happy?

A: There are a variety of reasons why a patient's vision may be blurry weeks to months following LASIK. Dry eyes are probably the most common reason, but a small percentage of patients will end up under-corrected following LASIK. These patients will require glasses or contacts for their best vision, or they may elect to undergo a re-treatment. Re-treatments are offered only after the eye has stabilized following the first LASIK, which is usually 3-6 months later.

Q: What if I accidentally injure my eye?

A: The corneal flap is very fragile during the first several weeks following LASIK, and can easily be moved or wrinkled by the slightest accidental bump. If the flap is damaged, you would likely note the sudden onset of pain and a decrease in vision. This requires immediate attention by an ophthalmologist so that the flap can be repositioned, if necessary. Months to years after the surgery, the eye is still at risk of damage to the flap (remember, the eye never fully heals) but it would take a significant force to the eye to cause a problem. Nonetheless, if you injure your eye accidentally, you need to be evaluated by an ophthalmologist to evaluate the eye and corneal flap. It is highly recommended that you wear protective glasses/goggles whenever you engage in activities which put your eyes at risk for injury.

**Tripler Army Medical Center
Laser Center**

**Postoperative Instructions
Following
PRK**

Overview: PRK laser refractive surgery has just been performed on your eye(s) by first removing the top skin cell layer (epithelium) and then changing the shape of the cornea with the laser. A contact lens has been placed onto the eye to provide you considerably more comfort during the initial healing process. Nonetheless, the amount of discomfort you may experience is variable. Your vision will fluctuate during the first 2-4 weeks following PRK. It is very important to follow these post-operative instructions to improve the chances for an excellent post-surgical result.

General Guidelines:

1. Use medicated eyedrops as directed (see below)
2. Do **NOT** rub your operative eye(s) or squeeze your eyelids tight. This may cause the contact lens to come out.
3. Protective goggles have been provided to you should you desire to wear them when you sleep. It is not required, though, following PRK surgery.
4. It is okay to shower or bathe; however, avoid getting water in your eye for two weeks after surgery.
5. Try to stay away from smoky or dusty environments, or areas with chemical vapors.
6. Do **NOT** wear makeup or apply lotions for the first two weeks following surgery.
7. Wear your sunglasses whenever you are outside.
8. Do **NOT** drive or operate machinery/appliances while taking **narcotic** pain medications. Do **NOT** drive unless you feel safe and confident with your vision.
9. Do **NOT** swim (fresh or salt water), use a hot tub or sauna for one month following surgery.
10. Some eye drops may sting for up to two minutes or cause temporary blurred vision.

Surgical Discomfort:

The eye medications and the Neurotin will help dramatically with the post surgical pain from PRK, however, there is no medication that will completely relieve the symptoms of having undergone the procedure. Some patients may require additional pain medications, such as Motrin, Vicodin, or Roxicet. Use narcotic pain medication (Roxicet, or Vicodin) as prescribed. If you have never taken Roxicet or Vicodin before, take just one tablet the first time, and take it with food. You should not drive while taking the medication, and for at least 12 hours after your last dose.

Diet:

No restrictions. Drink at least eight (8) glasses of fluid a day (nonalcoholic and non-caffeinated beverages)

How to use eye drops:

1. Wash hands thoroughly.
2. Pull down on lower eyelid while you look upwards. This creates a small pouch into which you can drop your medication.
3. Instill 1-2 drops of each medicine (doesn't matter which medicine you use first), but you must wait 5 minutes between medicines. You will be using 3 different medicated eye drops during the first week following surgery.
4. You may freely use preservative-free artificial tears throughout the day, but not within 10-15 minutes of instilling medicated drops.

Report any of the following to your surgeon:

1. Excessive pain, not relieved by pain medication
2. Nausea or vomiting
3. Development of rash/itching

Medications: BRING DROPS TO ALL POST-OP VISITS

1. **Vigamox** (tan cap): 1-2 drops into eye(s) four times per day for one week
2. **Nevonac** (grey cap): 1-2 drops into eye(s) four times per day for 3 days.
3. **FML** (white cap): 1-2 drops into eye(s) four times per day. You will likely be on this drop 2-3 months. (SHAKE WELL)
4. **Neurotin**: pain pill: 1 tablet 3 times per day starting the day before the surgery, and continued for 5 days.

Activities / Restrictions:

1. Con-leave authorized for 4 days following PRK.
2. No restrictions on day-to-day activities (reading, watching TV, etc.)
3. Exercise :
 - ☐ running, walking, biking, golfing, weightlifting - wait 1 week
 - ☐ swimming - must wait one month before resuming
 - ☐ other - please use common sense

For problems or concerns, call the Laser Center at (808) 433-3089, from 0730 to 1600 Monday through Friday.

After hours, call the Emergency Room at (808) 433-3707.

Answers to Commonly Asked Questions:

Q: What if my contact lens comes out of my eye?

A: The contact lenses following PRK are placed for your comfort. We believe that this benefit to you far outweighs the very small increased risk of infection. Should a contact lens come out of the eye, you will likely notice a significant increase in pain. We do not recommend that you replace the lens yourself. It is NOT an emergency if it falls out (in fact, some centers do not place contact lenses in the eyes at all following PRK). Come in to the laser center during work hours to have it replaced, or go to the ER on a weekend. If your eye does not hurt, then there is no need to replace it.

Q: Why did my vision get worse several days after PRK?

A: This is an expected part of the healing process. The skin cell layer (epithelium) heals in from the outer edges of the cornea in towards the center. It takes about 3-4 days to finally reach the center of the cornea, which is the part of the cornea you see through. The new epithelial layer is cloudy and irregular, and takes several weeks to clear up in some patients. You may notice your reading vision is blurrier than your distance vision during the first month after surgery.

Q: Now that my vision is good several weeks after PRK, why do I have to keep taking all of these drops?

A: The healing process following PRK continues for 2-4 months after the surgery. Although the result may be great one month after your surgery, there are still some subtle changes that can happen to the cornea which may affect the final outcome. Late-scarring ("haze") is the biggest concern 1-3 months following surgery since it can affect vision in two ways: 1. It may change the shape of the cornea, tending to shift the eye back towards near-sightedness, and 2. It may become dense enough that you cannot see clearly through it, independent of glasses. Everyone is at risk of late-scarring following PRK, though the risk is proportional to how near-sighted you were before the surgery. To minimize the risk of haze, you will be required to continue your steroid eye drops for 2-3 months following the surgery. You should also wear sunglasses whenever you are outdoors for the first 3-4 months following PRK.

Q: When can I resume normal physical activity?

A: You can resume full activities as soon as you feel comfortable. In essence, you are recovering from a large scratch to the surface of the eye, and once healed, the eye is back to being a 'full-strength' eye.

Q: How often do I need to see the doctor?

A: Expect to see the doctor the day after surgery, as well as 2-3 times again over the next 4-5 days. Once the eyes are healed (4-5 days after surgery on average), the contact lenses will be removed. The next visit is 2 weeks after surgery, then one-, two-, three-, six-, and twelve-months after surgery.

Appointment Log

<u>Appointment Type:</u>	<u>Date</u>	<u>Time</u>	<u>Note</u>
Initial Tech Evaluation			may take several hrs
Doctor Evaluation			need driver, eyes dilated, may take several hours
Photo Appointment			pick up meds at pharmacy
Surgery			need driver, eyes dilated
1 st Post-Op Appointment			need driver
Post-Op Appointment			
Post-Op Appointment			
Post-Op Appointment			
Post-Op Appointment			
Post-Op Appointment			

General Guidelines:

The Laser Refractive Surgery Center at Tripler is an extremely busy clinic. We make every effort to see patients in a timely manner. Unexpected delays do occur, though, so we appreciate your patience. Please bring something to do or read while you wait.

Due to space restrictions in the waiting room, we request that you do not bring family members and/or friends with you to any of your appointments unless a driver is needed. Be advised also that there are no children allowed in the Laser Refractive Clinic or its waiting rooms.

Parking can be a problem at Tripler. Please allow sufficient time to find parking to ensure that you are on time for your appointment. Carpool if possible.

You should not drive while taking narcotic pain medications, or if your vision is blurry!
Please arrange to have a driver, if needed, for your post-op visits.

Failure to keep a scheduled appointment will result in a disqualification from the program, unless 24 hours advance notice is given.